

REVISION OF KENTROTHAMNUS (RHAMNACEAE)

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THE GENUS *Kentrothamnus* was established by Suessenguth and Overkott (Fedde Repert. Sp. Nov. 50: 326. 1941) to accommodate South American plants which are related to *Colletia* Juss. and *Discaria* Gill. & Hook., differing from the former in the lack of any revolute nectarial structure at the rim of the disk and from the latter in the thin disk lining the cup. The generic distinctions of these three, *Colletia*, *Discaria*, and *Kentrothamnus*, are obviously tenuous. Escalante (Bol. Soc. Arg. Bot. 1: 223. 1946), in effect, submerged *Kentrothamnus* in *Discaria*, but this procedure seems to me to have no greater merit than simply to merge all three genera under the name *Colletia*, a radical course of action which I, at least tentatively, reject.

A specimen of *Kentrothamnus* which came into possession of J. Miers was described by him (Ann. Mag. Nat. Hist. ser. 3. 5: 491. 1860) in the genus *Trevoa* Hook.; this is a natural consequence of the nature of the disk, which did not permit him to refer the species to either *Colletia* or *Discaria*. Had the specimen been in fruit, of course, Miers would have had to face the problem of generic assignment which was ultimately faced and solved by Suessenguth and Overkott. Miers's specific epithet is the earliest one available for *Kentrothamnus* and the transfer is made below.

Kentrothamnus, in its lack of the revolute nectary of *Colletia*, and its lack of the swollen disk of *Discaria*, as well as in its undistinguished capsular fruits (like those of *Colletia*, *Discaria* and *Ceanothus* L.), possesses a combination of a number of characters probably primitive in the Tribe Colletieae. Of all the South American plants of this tribe, *Kentrothamnus* probably comes closest to being an "ancestral" type, and of all of them it is most similar to the solitary North American genus of the tribe, *Adolphia* Meisn.

Kentrothamnus Suessenguth & Overkott, Fedde Repert. Sp. Nov. 50: 326. 1941. Generico-specific description: Shrubs 1–4 m. tall; branches decussate, terete, in at least 2 size-classes, the primaries elongate and arcuate, the secondaries 1–8 cm. long, 1–2 mm. thick, rigid and thorn-tipped, all olive-green to olive-brown and rather densely pubescent with yellowish straightish or crisped, spreading or somewhat retrorsely curved hairs 0.1–0.3 mm. long, occasionally the secondaries with shorter thorn-tipped tertiaries, each secondary and tertiary branch usually with only one leaf- or flower-bearing node near the middle, the young developing primaries with many such nodes. Leaves decussate (sometimes slightly offset, not perfectly opposite); blades obovate to ovate to oblong, 3–15 mm. long, 3–4 mm. wide, penninerved, with more or less dense pubescence of yellowish antrorse-appressed crisped hairs 0.1–0.2 mm. long; petioles more or

less 1 mm. long, slender, pubescent; stipules subulate, ca. 1 mm. long, pubescent, dark, caducous leaving a minute blackish gland-like structure at base of each side of the petiole. Flowers solitary or in few-flowered fascicles, bisexual, 5-merous, nodding on pedicels 1–2 mm. long (elongating to 2–5 mm. in fruit); floral cup 3–4 mm. long, the lower moiety (the part lined by the disk and destined by accrescence to become the fruit-pedestal) hemispheric, pale reddish green, the upper moiety slightly campanulate, whitish with vertical roseate stripes leading to the stamen-attachments, the inner surface smooth, the outer pubescent with whitish crisped more or less spreading hairs 0.2–0.3 mm. long; sepals deltoid, ca. 1.5 mm. long, whitish; petals ca. 1 mm. long with a short basal claw and an ovate hoodlike portion, whitish; stamens at first hooded by the petals, then exposed by petal-reflexing; filaments whitish; disk lining the lower moiety of the cup, thin or at rim slightly thickened at the reddish vertical stripes of the cup and between those stripes. Ovary 3-celled, free from the disk and from the cup, glabrous; style about equalling the sepals. Fruit a 3-parted schizocarpous pedastalled capsule ca. 5 mm. long, the 3 parts at maturity separating from each other and from the pedestal and each splitting in a ventral-apical midline to release the seed. TYPE SPECIES here designated: *K. penninervius* Suessenguth & Overkott.

Kentrothamnus weddellianus (Miers) M. C. Johnst., comb. nov.

Trevoa weddelliana Miers, Ann. Mag. Nat. Hist. ser. 3. 5: 491. 1860. (TYPE: Bolivia, circa Chuquisaca, *d'Orbigny 1212*, BM-MIERS!, isotype, BR!)

Colletia foliosa Rusby, Mem. Torrey Bot. Club 3(3): 16. 1893. (TYPE: Bolivia, vicinity of Cochabamba, 1891, *A. M. Bang 978*, holotype NY!, isotypes BM! E! K! M! NY! US!).

Colletia foliosa var. (β) *microphylla* O. Kuntze, Rev. Gen. Pl. 3(2): 38. 1898. (TYPE: Bolivia, Cochabamba, 3000 m., 26 Mar. 1892, *O. Kuntze s.n.*, holotype NY!, isotype, US!).

Kentrothamnus foliosus (Rusby) Suesseng., Fedde Repert. Sp. Nov. 50: 327. 1941.

Kentrothamnus penninervius Suesseng. & Overk., Fedde Repert. Sp. Nov. 50: 327. 1941. (TYPE: Bolivia, Sala-sala-Tasnepaloo, 3600 m., 12 Mai 1927, *Troll 3360*, holotype B!, isotype M!).

Discaria weddelliana (Miers) Escalante, Bol. Soc. Arg. Bot. 1: 223. 1946.

The description is given above, since the genus is considered to be monotypic. Suessenguth and Overkott (loc. cit., and in *Natürlichen Pflanzenfamilien* ed. 2. 20d: 164, 165. 1953) attempted to distinguish two species, mainly on the basis of the placement of slightly swollen portions of the upper margin of the nectarial disk (below the centers of the sepals in *K. penninervius*, below the stamens in *K. foliosus*). Examination of considerably more material than was available to those authors indicates the presence of the level of variation one expects in Rhamnaceae not only from plant to plant in a population, but from stage to stage in anthesis in the same flower. Field observations are necessary to establish the exact sites and sequences of swelling and nectar production in the disk at anthesis.

Specimens seen in addition to the types are cited below:

Bolivia: Challapass, 3800 m., 18 Mar. 1892, *O. Kuntze s.n.* (NY); Cochabamba, Colón, a disused brewery a few km. from Cochabamba, 16 Jan. 1949, *Miss W. M. A. Brooke 5114* (NY); near Cervecería Colón, Quebrada Colón, ca. 20 km. E of Cochabamba in dense thicket near riverbank, 2800 m., 14 Mar. 1939, *W. J. Eyerdam 24787* (UC); Cochabamba, canyon above Taquiña, 12 km. N of Cochabamba, 1 Nov. 1942, *M. Cárdenas & H. Cutler 7409* (GH); cercado de Cochabamba, Cerro San Pedro (falderío), 2575 m., terrenos pedregosos y secos, 23 Apr. 1966, *Roy F. Steinbach 115* (GH).

Argentina: Prov. Jujuy, Dept. Yavi, La Quiaca-Villazon, 3442 m., 24 Jan. 1940, *Schreiter 11230* (GH, NY); Jujuy, Dept. Santa Catalina, Cuesta de Toquero, camino a Sta. Catalina, 21 Jan. 1940, *A. L. Cabrera 7791* (GH).

On the label cited above, Miss Brooke notes that an extraction of the plant is made for use as soap and shampoos. No other economic data are at hand.

It seems clear from the label data that the plant grows in very arid scrub on rocky mountain-slopes, and that it grows taller (3–4 m.) near stream banks than in the more xeric places (1–2 m.).

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